

REMARKS

Claims 26 - 30 are being added. Claims 7, 9, 14, 18 and 20 are being cancelled without prejudice to filing in a later application. Claims 1, 12, 16, 22, 24 and 25 are being amended. Upon entry of the amendment claims 1-8, 10-13, 15-17, 19, and 21-30 will be pending in this application.

The amendment to claim 1 is supported by as filed claim 14 and page 7.

The amendment to claim 16 is supported by page 8.

The amendment to claim 22 and 24 is supported by page 7.

The amendment to claim 25 adds to readability of that claim.

New claim 26 is supported by as filed claim 13 and page 7.

New claim 27 is supported by as filed claim 12 and page 7.

New claim 28 is supported by page 7.

New claim 29 is supported by as filed claims 6 and 12 and page 7.

New claim 30 is supported by page 7.

The objection to claim 8.

Claim 8 was objected to because "cyclotetrasiloxane" was asserted to be a known synonym for "octamethylcyclotetrasiloxane" which is already claimed in claim 8.

Cyclotetrasiloxane is a broader genus that includes the species octamethylcyclotetrasiloxane, a ring compound having 4 Si and 4 O ring atoms See, for example, U.S. Patent No. 7,101,948 at the abstract and claims: "The present invention is . . . a process for stabilizing a cyclotetrasiloxane, such as 1,3,5,7-tetramethylcyclotetrasiloxane . . ." The presence of both a broader genus "cyclotetrasiloxane" and a more specific compound is proper in the same claim. Applicants traverse this objection and respectfully request withdrawal thereof.

The rejection of claim 21 under 35 U.S.C. §112, second paragraph.

Claim 21 was rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. More particularly, the Examiner asserted that use of the term "amino-functional silazane" is confusing because a silazane by definition comprises an amino group.

IUPAC defines a silazane as a saturated silicon-nitrogen hydride, having straight or branched chains. They are analogous in structure to siloxanes with -NH- replacing -O-. An amino functional silazane is a silazane having an amino group that can participate in a reaction. The "functional" amino group is typically pendent to the molecule backbone and additional to the backbone N atoms. In view of this explanation Applicants respectfully request withdrawal of this rejection.

The rejection of claims 1-11, 14-16 and 18-20 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,880,227 to Kobayashi et al.

Claims 1-11, 14-16 and 18-20 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,880,227 to Kobayashi et al.

To establish a *prima facie* case of obviousness three basic criteria must be met. First, there must be some suggestion or motivation, either in the cited documents or information themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or combine the cited documents or information. Second, there must be a reasonable expectation of success in achieving the desired result. Finally, the cited documents or information must teach or suggest all the claim limitations. See MPEP §2143.

The Kobayashi document does not teach or suggest Applicants' cross linker generally.

Amended claim 1 recites in one pertinent part: ". . . a curable component comprising a combination of at least one cross-linker . . ."

As explained in Applicants' specification at page 7: "The . . . curable component also includes a cross-linking agent. Cross-linking is the attachment of two or more chains of polymers . . ." Applicants' cross-linker agent cross-links (attaches) chains of polymers in the curable component.

The Office asserts that a cross-linker agent is disclosed in the Kobayashi document at 4:53 to 5:23. The Kobayashi document at 4:52-56 states, with bolding added: "The composition according to the present invention comprises components (A)

through (D) described above, but it may also contain silane coupling agents (as exemplified below) **for the purpose of improving the adherence to a range of substrates.**" The asserted Kobayashi compounds are NOT cross-linker agents for interaction with chains of polymers in the curable component. Rather, the Kobayashi "coupling agents" interact between the prepared composition and a substrate. The Examiner has offered no citation or explanation of how the Kobayashi coupling agents attach chains of polymers in the curable composition of Kobayashi. The Kobayashi coupling agents are NOT cross-linker agents as recited in Applicants' claims. Applicants respectfully traverse this rejection. Claims 1-11, 14-16 and 18-20 are patentable for at least this reason.

The Kobayashi document does not teach or suggest Applicants' cross linker agents specifically.

Amended claim 1 recites in one pertinent part: ". . . at least one cross-linker selected from a monomeric, cyclic, oligomeric or polymeric silazane; an amino-functional silazane; an enoxy-functional silazane; a silicon hydride; an amino functional silane without alkoxy functionality; a tris methylamino functional silane; a methylethylketoxime functional silane; an acetoxymethyl functional silane; an enoxy functional silane; and combinations thereof . . ."

The Kobayashi document does not disclose, teach or suggest the recited cross-linker agents. Applicants respectfully traverse this rejection. Claims 1-11, 14-16 and 18-20 are patentable for at least this reason.

The rejection of claim 21 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,880,227 to Kobayashi et al. in view of U.S. Patent No. 5,691,407 to Azechi et al.

Claim 21 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,880,227 to Kobayashi et al. in view of U.S. Patent No. 5,691,407 to Azechi et al.

In making this rejection the Office admits that the Kobayashi document does not teach the presence of silazane cross-linker. The Office goes on to assert:

"However, Azechi et al does teach the presence of a silazane coupling agent (4:30-49). Kobayashi et al and Azechi et al. are combinable because they are in the same field of endeavor, namely silicone rubber compositions. . . . a person of ordinary skill in the art would have found it obvious to employ the silazane coupling agents as taught in Azechi et al. into the curable compositions as taught by Kobayashi et al. and would have been motivated to do so because Azechi et al. teaches that both silazanes and aminosilanes are effective coupling agents (4:30-32). Kobayashi et al. explicitly teaches using aminosilanes coupling agents (4:52-5:23). Based on the teaching of equivalency by Azechi et al., a person having ordinary skill in the art would have been motivated to employ the silazane reagents as taught therein."

Neither the Kobayashi document nor the Azechi document teach or suggest Applicants' cross linker generally.

As discussed above the cited text of the Kobayashi document does NOT disclose, teach or suggest a cross-linker agent as recited in Applicants' claims.

The Office asserts that a cross-linker agent is disclosed in the Azechi document at 4:30-49. The Azechi document teaches that use of aluminum hydroxide is essential (4:15-16). The Azechi document further teaches that: "Aluminum hydroxide is surface treated with suitable agents, for example, coupling agents such as silane, silazane, and titanate coupling agents . . . (4:26-28)" The Azechi document prefers to surface treat the aluminum hydroxide with the coupling agent BEFORE adding the treated aluminum hydroxide to the silicone rubber composition (5:24-45). Thus, the Azechi document teaches away from adding a silazane to the silicone rubber composition. The aluminum hydroxide surface treatment is alleged to be "effective for improving adhesion of a silicone rubber composition to cores over a prolonged period of time . . . (5:18-23).

The 4:30-49 text of Azechi cited by the Office further expounds on the agents that can be used to couple aluminum hydroxide for improving adhesion of a silicone rubber composition to cores over a prolonged period of time. The asserted Azechi compounds are NOT cross-linker agents for interaction with chains of polymers in the

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curable component. The Examiner has offered no citation or explanation of how the Azechi coupling agents attach chains of polymers in the curable composition of Azechi. The Azechi coupling agents are NOT cross-linker agents as recited in Applicants' claims. Applicants respectfully traverse this rejection. Claim 21 is patentable for at least this reason.

The Kobayashi and Azechi documents are not in the same field of endeavor and are not properly combinable.

The Office asserts that the Kobayashi document and the Azechi document are in the same fields of endeavor and are therefore properly combinable.

The Kobayashi document is directed to relatively low viscosity fluids that can be applied to a substrate to form a thin coating thereon.

The Azechi document is directed to a solid silicone rubber material that can be used for insulating the conductor of a wire.

The Kobayashi document is classified in class 525, subclass 477.

The Azechi document is classified in class 524, subclass 437.

The Kobayashi document search included classes/subclasses 528/34, 17, 15; 528/14, 18, 19, 36; 525/102, 477.

The Azechi document search included classes/subclasses 524/437, 588, 786.

The Kobayashi inventors endeavored to find a composition that provides oil and water repellant properties. (abstract)

The Azechi inventors endeavored to find a composition that provides durable high-voltage electrical insulating properties. (abstract)

In sum, the Kobayashi and Azechi documents are not in the same field of

endeavor as they are directed to physically and chemically different materials having very different chemical and physical properties. Applicants' position is supported by the Patent Office's classification of these documents in different classes. Applicants' position is further supported by the fact that the prosecution searches of Kobayashi and Azechi do not overlap at all. Why would a skilled person knowing of the Kobayashi document look to the Azechi document when a highly skilled Patent Office Examiner prosecuting the Kobayashi application would not even look to the 524 class of Azechi? Arguendo, even if the Azechi document coupling agent is a cross-linker (which it is not), these documents are not properly combinable. Claim 21 is patentable for at least this reason.

There is neither suggestion nor motivation to modify the teachings of the Kobayashi document.

Only where there is some teaching, suggestion, or motivation to do so can obviousness be established by combining or modifying the teachings of the prior art to produce the claimed invention. In re Kahn, 441 F.3d 977, 986, 78 USPQ2d 1329, 1335 (Fed. Cir. 2006)

Arguendo, even if the Kobayashi and Azechi documents were properly combinable (which they are not) there is no teaching or suggestion in either application that the alleged "coupling agents" therein can, or do, interact with chains of polymers in the curable component. Claim 21 is patentable for at least this reason.

There is no reasonable expectation of success in modifying the teachings of the Kobayashi document.

Obviousness does not require absolute predictability, however, at least some degree of predictability is required. The chemical arts are well recognized for their general unpredictability. "Many compounds have a known relationship but are not equivalents for substitution in different reactions. A mere relationship is an insufficient basis for the necessary predictability of success to sustain a rejection under section

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103.” In re Mercier, 185 USPQ 774, 779 (CCPA 1975).

Arguendo, even if the Kobayashi and Azechi documents were properly combinable (which they are not) there is no teaching or suggestion in either application that the alleged “coupling agents” therein can, or do, interact with chains of polymers in the curable component. A skilled person would not expect that a teaching of chemical coupling of a prepared composition to a substrate (Kobayashi) or of a prepared composition to aluminum hydroxide (Azechi) will also be relevant to chemical cross linking of polymer chains (Applicants’ cross-linker) in a composition. Claim 21 is patentable for at least this reason.

The rejection of claims 22-25 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,880,227 to Kobayashi et al.

Claims 22-23 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,880,227 to Kobayashi et al. Claims 24-25 were separately rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,880,227 to Kobayashi et al.

As discussed above the Kobayashi and Azechi documents, either alone or combined, do not disclose, teach or suggest at least Applicants’ claimed cross-linker, either generally or specifically. Claims 22-25 are patentable for at least this reason.

Claims 10, 16 and 26-30 are patentable over the Kobayashi document for additional reasons.

- Claim 10

Amended claim 10 recites: “The composition of claim 1, wherein said non-VOC carrier composition is present in amounts of about 95% to about 99.8% by weight of the total composition.” The Office admits that the Kobayashi document does not extend to this range of solvents. Claim 10 is patentable for at least this reason.

- Claim 16

Amended claim 16 recites: "The composition of claim 1, having a non-catalyzed room temperature cure time until formation of a mold release coating in the range of about 2 minutes to about 6 hours. The Kobayashi composition requires catalyst. Even with a catalyst the Kobayashi composition still appears to require one week to cure sufficiently for testing to be done. Claim 16 is patentable for at least this reason.

- Claim 26

New claim 26 includes the hydroxy-terminated polydimethyl siloxane which was admitted to be novel over Kobayashi and Azechi. Claim 26 is patentable for this reason.

- Claims 27 and 29

New claims 27 and 29 include the polyfunctional siloxane of claim 12. Claims 27 and 29 are patentable for at least this reason.

- Claims 27 - 30

New claims 27 to 30 recite specific cross-linkers. The Kobayashi and Azechi documents, either alone or combined, do not disclose, teach or suggest Applicants' claimed cross-linker generally or the recited cross-linkers specifically. Claims 27 - 30 are patentable for at least this reason.

The rejection of claims 1, 3, 6-11 and 14-20 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,512,072 to Gantner et al.

Claims 1, 3, 6-11 and 14-20 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,512,072 to Gantner et al.

The Gantner document does not teach or suggest Applicants' cross linker agents specifically.

Amended claim 1 recites in one pertinent part: ". . . at least one cross-linker selected from a monomeric, cyclic, oligomeric or polymeric silazane; an amino-functional silazane; an enoxy-functional silazane; a silicon hydride; an amino functional silane without alkoxy functionality; a tris methylamino functional silane; a methylethylketoxime functional silane; an acetoxy functional silane; a tris enoxy functional silane; and combinations thereof . . ."

The Office alleges only that the Gantner document discloses some alkoxysilanes. The Gantner document does not disclose, teach or suggest the recited cross-linker agents. Applicants respectfully traverse this rejection. Claims 1, 3, 6-11 and 14-20 are patentable for at least this reason.

The rejection of claims 22-25 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,512,072 to Gantner et al.

Claims 22-23 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,512,072 to Gantner et al. Claims 24-25 were separately rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,512,072 to Gantner et al.

The Gantner document does not teach or suggest a mold release composition.

Claim 22 recites: "A method of preparing a curable mold release composition . . ."
Claim 24 recites: "A method of preparing a mold release coating . . ." Claim 24 also includes the step of "applying the mold release composition to a mold surface".

The Office asserts: "While the end use of the compositions taught by Gantner et al. is geared towards coatings/films on biological membranes (7:7-13), Gantner does teach that the compositions may also achieve properties related to release coatings (7:1-6). Therefore, it is the position of the Office that Gantner et al. teaches the same intended use as the instant application."

The Gantner document states: "The present invention relates to one-part formulations which rapidly cure on exposure to moisture and are useful for forming films in personal and healthcare applications." 1:6-8. The Gantner document provides more detail on the types of films formed at 1:66 to 2:3 stating: "The present invention relates to formulations which are useful for forming films on substrates, preferably biological substrates, where they can serve, for example, as barrier films, cosmetic films, drug delivery mechanisms and the like." The Gantner document from 6:64 to 7:19 (encompassing the Examiner's cited text) states, with underlining added:

The present invention offers numerous advantages over the prior art. The method described herein allows for a simple method of forming a film on a substrate. As such, a skilled practitioner is not required for application. Moreover, the composition can be formed into a wide variety of shapes and have selected combinations of properties (e.g. bioadhesion, release rate and release profile). Similarly, the formulations and processes described herein don't involve severe conditions (e.g. high temperatures or pressures) that might damage any active agents or substrates used.

The formulations and resultant compositions herein are generally acceptable on many biological membranes. The composition may be formed on intact or damaged skin or in a natural or artificial cavity of the body. The cavity may be, for example, the ocular, buccal, nasal, aural, vaginal or rectal cavity or a cavity formed, for example, in a tooth or an open wound.

The resultant films are typically thin and non-tacky. Films on the order of up to 20 mils (e.g., 1 to 15 mils) are often obtained. These films can have many physical properties from gels to elastomers so that they are able to withstand many of the pressures exerted during normal activities of a patient.

As acknowledged by the Office the Gantner document does NOT disclose, teach or suggest a mold release composition. The Gantner document is limited to application of a film such as a barrier film, cosmetic film, drug delivery mechanism to a biological substrate such as a body under non-severe conditions. The Gantner document mentions "release" one (1) time in the context of a biological application: "Moreover, the composition can be formed into a wide variety of shapes and have selected combinations of properties (e.g. bioadhesion, release rate and release profile)." As skilled person looking for mold release coatings would not look to a composition

intended for application to skin that is not suitable for severe conditions (e.g. high temperatures or pressures) such as found in a molding operation. The Office position "that Gantner et al. teaches the same intended use as the instant application" is insupportable given the disclosure of the Gantner document and can only be based on hindsight in view of Applicants' claims. Applicants traverse this rejection. Claims 22-25 are patentable for this reason.

The Gantner document does not teach or suggest Applicants' cross linker agents specifically.

Amended claim 1 recites in one pertinent part: ". . . at least one cross-linker selected from a monomeric, cyclic, oligomeric or polymeric silazane; an amino-functional silazane; an enoxy-functional silazane; a silicon hydride; an amino functional silane without alkoxy functionality; a tris methylamino functional silane; a methylethylketoxime functional silane; an acetoxy functional silane; an enoxy functional silane; and combinations thereof . . ." Amended claim 24 recites in one pertinent part: ". . . at least one cross-linker selected from a silazane; an amino-functional silazane; an enoxy-functional silazane; an amino functional silane without alkoxy functionality; a tris methylamino functional silane; a methylethylketoxime functional silane; an acetoxy functional silane; an enoxy functional silane; and combinations thereof . . ."

The Gantner document does not disclose, teach or suggest the recited cross-linker agents. Applicants respectfully traverse this rejection. Claims 22-25 are patentable for at least this reason.

Claims 16 and 26-28 are patentable over the Gantner document for additional reasons.

- Claim 16

Amended claim 16 recites: "The composition of claim 1, having a non-catalyzed room temperature cure time until formation of a mold release coating in the range of

about 2 minutes to about 6 hours. The Gantner composition requires catalyst (abstract, C5:L56). Claim 16 is patentable for at least this reason.

- Claim 26

New claim 26 includes the hydroxy-terminated polydimethyl siloxane which was admitted to be novel over Gantner. Claim 26 is patentable for this reason.

Claims 27 and 29

New claims 27 and 29 include the polyfunctional siloxane of claim 12, which is not rejected over Gantner. Claims 27 and 29 are patentable for at least this reason.

- Claims 28 - 30

New claims 28 to 30 recite specific cross-linkers. The Gantner document does not disclose, teach or suggest Applicants' claimed cross-linker. Claims 28 - 30 are patentable for at least this reason.

The rejection of claims 1-9 and 11-20 under 35 U.S.C. §103(a) as allegedly being unpatentable over Japanese document no. JP-06-88025 to Horie et al.

Claims 1-9 and 11-20 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Japanese document no. JP-06-88025 to Horie et al.

Applicants thank the Examiner for supplying a machine translation of the Horie document. However, sections of this machine translation are unparseable. If the Examiner maintains a rejection over the Horie document Applicants respectfully insist that a human translation of the document be provided.

The Horie document does not teach or suggest Applicants' cross-linker agents specifically.

Amended claim 1 recites specific cross-linkers. The Office admits that the Horie document discloses only "alkoxy functional silanes" at paragraph 0021. As admitted by

the Office the Horie document does not disclose, teach or suggest the Claim 1 cross-linker agents. Applicants respectfully traverse this rejection. Claims 1-9 and 11-20 are patentable for at least this reason.

The rejection of claims 22-25 under 35 U.S.C. §103(a) as allegedly being unpatentable over Japanese document no. JP-06-88025 to Horie et al.

Claims 22-23 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Japanese document no. JP-06-88025 to Horie et al. Claims 24-25 were separately rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Japanese document no. JP-06-88025 to Horie et al. As discussed above the Horie document does not disclose, teach or suggest at least Applicants' claimed cross-linker. Claims 22-25 are patentable for at least this reason.

Claims 16 and 27-30 are patentable over the Horie document for additional reasons.

- Claim 16

Amended claim 16 recites: "The composition of claim 1, having a non-catalyzed room temperature cure time until formation of a mold release coating in the range of about 2 minutes to about 6 hours. The Horie composition uses a catalyst (paragraph 0023). Even with catalyst the Horie composition is admitted to require 24 hours to cure. Claim 16 is patentable for at least this reason.

- Claims 27 - 30

New claims 27 to 30 include the cross-linker of claim 24 which is not found in Horie. Claims 27 to 30 are patentable for at least this reason.

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In summary, Applicants have addressed each of the objections and rejections in the present Office communication. It is believed the application now stands in condition for allowance, and prompt favorable action thereon is respectfully solicited.

The Examiner is invited to telephone Applicants' attorney at 860 571 2501 if it is deemed that a telephone conversation will hasten prosecution of this application.

Respectfully submitted,

Zheng Lu et al.

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